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IN THE CLAIMS:

The following is a complete listing of claims in this application.

1. (original) A device to correct interference errors in a measuring installation (A), that includes:

at least two magnetic sensors (1_1, 1_2) for measuring the position of mobile elements (2_1, 2_2) that are moving along adjacent trajectories, where each magnetic measuring sensor (S_1, S_2) delivers a measurement signal that is representative of the position of the mobile element in an open magnetic circuit (3_1, 3_2),

and resources (M) for processing the measurement signals delivered by the magnetic measuring sensors,
characterised in that the processing resources (M) include resources for correction of the magnetic measurement signals in order to take account of interference errors between the adjacent magnetic sensors (1_1, 1_2) with a view to obtaining a corrected measurement signal (S_{1c}, S_{2c}) for each magnetic measuring sensor.

2. (original) A device according to claim 1, characterised in that the correction resources correct the measurement signal (S_1, S_2) of each magnetic measuring sensor (1_1, 1_2) according to the value of the measurement signals of the magnetic measuring sensor concerned and of the other magnetic measuring sensors.

3. (currently amended) A device according to claim 1 ~~or 2~~, characterised in that the processing resources (M) deliver a corrected measurement signal for each magnetic measuring sensor such that:

$$S_{1c}=\sum_{i-1}^{n}\left(\sum_{j=0}^{i}\alpha_{ij}S_1^jS_2^{i-j}\right)$$

$$S_{2c}=\sum_{i=1}^{n}\left(\sum_{j=0}^{i}\alpha'_{ij}S_2^{j}S_1^{i-j}\right)$$

where α, α' are correction coefficients and n is the correction order.

4. (original) A device according to claim 3, characterised in that, for each magnetic measuring sensor (1_1, 1_2), the processing resources (M) deliver a corrected measurement signal such that for a correction order of $n = 3$, α, i, j and α' are such that:

$\alpha_{10} = a-c$, $\alpha_{11} = 1+c$

$\alpha'_{10} = a'-c'$, $\alpha'_{11} = 1+c'$

$\alpha_{20} = 0 = \alpha'_{20}$, $\alpha_{21} = \alpha'_{21} = 0$, $\alpha_{22} = \alpha'_{22} = 0$

$\alpha_{30} = -b$, $\alpha_{31} = 3b$, $\alpha_{32} = -3b$, $\alpha_{33} = b$

$\alpha'_{30} = -b'$, $\alpha'_{31} = 3b'$, $\alpha'_{32} = -3b'$, $\alpha'_{33} = b'$

where a, b, c, a', b', c' are correction coefficients so that:

$$S_{1c} = (1 + c)S_1 + (a - c)S_2 + 3bS_1 S_2^2 - 3bS_1^2 S_2 + bS_1^3 - bS_2^3$$

$$S_{2c} = (1 + c')S_2 + (a' - c')S_1 + 3b'S_2S_1^2 - 3b'S_2^2S_1 + b'S_2^3 - b'S_1^3$$

or

$$S_{1c} = S_1 + aS_2 + b(S_1 - S_2)^3 + c(S_1 - S_2)$$

and

$$S_{2c} = S_2 + a'S_1 + b'(S_2 - S_1)^3 + c'(S_2 - S_1)$$

5. (original) A device according to claim 3, characterised in that, for each magnetic measuring sensor (1_1, 1_2), the processing resources (M) deliver a corrected measurement signal such that, for a correction order of $n = 1$, the values of α, α', i, and j are such that: $\alpha_{10} = a$, $\alpha_{11} = a'$ and $\alpha'_{10} = a'$, $\alpha'_{11} = 1$ so that:

$$S_{1c} = S_1 + aS_2,\ \text{and}\ S_{2c} = S_2 + a'S_1$$

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6. (currently amended) A device according to ~~one of claims 1 to 5~~ claim 1, characterised in that each measurement signal S_1 , S_2 is such that:

$$S_1 = \frac{S_a - S_b}{S_a + S_b}$$

$$S_2 = \frac{S_d - S_c}{S_d + S_c}$$

where S_a, S_b, and S_c, S_d are a pair of elementary measurement signals delivered by a pair of measurement cells mounted in the open magnetic circuit.

7. (currently amended) A measuring installation characterised in that it includes

- a first magnetic measuring sensor (1_1) delivering a first measurement signal (S_1) for the position of a first mobile element (2_1) that is moving along a trajectory (T_1), where the value of the first measurement signal (S_1) depends on the position of the said mobile element in an open magnetic circuit (3_1),

- at least one second magnetic measuring sensor (1_2) delivering a second magnetic measurement signal (S_2) for the position of a second mobile element (2_2) that is moving along a trajectory (T_2) adjacent to the movement trajectory (T_1) of the first mobile element, where the value of the second measurement signal (S_2) depends on the position of the said mobile element in an open magnetic circuit (3_2)

- and a correction arrangement according to ~~one of claims 1 to 6~~ claim 1.

8. (original) A measuring installation according to claim 7, characterised in that each magnetic measuring sensor (1_1, 1_2) includes resources (4_1, 4_2) for the creation of a magnetic

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flux in a direction perpendicular to the surface (5_1, 5_2) of at least one polar part from which there emanates a magnetic leakage flux whose strength varies with the surface area of the polar part along the movement axis, where these magnetic flux creation resources (4_1, 4_2) are mounted to be movable by the mobile element, forming at least one magnetic gap (8_1, 8_2) with a polar part forming part of the open magnetic circuit, with each magnetic measuring sensor including at least one measuring cell (11_1, 11_2) mounted in a fixed manner in the magnetic circuit close to an end point of the trajectory so as to measure the magnetic flux delivered by the creation resources less a magnetic leakage flux appearing from the polar part and varying along the trajectory.

9. (currently amended) A measuring installation according to claim 7 ~~or 8~~, characterised in that the magnetic flux creation resources (4_1, 4_2) of the two measuring sensors are mounted close to each other along parallel trajectories.

10. (original) A measuring installation according to claim 8, characterised in that each magnetic measuring sensor (1_1, 1_2) includes a second measuring cell (13_1, 13_2) mounted in a fixed manner in the magnetic circuit (3_1, 3_2) close to the other trajectory end point, so as to measure the magnetic flux delivered by the creation resources (4_1, 4_2) less the magnetic leakage flux.

11. (original) A measuring installation according to claim 8, characterised in that the magnetic flux creation resources (4_1, 4_2) are mounted to be movable in translation.

12. (original) A measuring installation according to claim 11, characterised in that the magnetic flux creation resources (4_1, 4_2) are composed of a radially or axially magnetised disk-shaped or annular element (14_1, 14_2) whose axis is parallel to the movement axis in translation.

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13. (original) A measuring installation according to claim 11, characterised in that the magnetic flux creation resources are composed of a series of at least four magnets (15_1, 15_2) whose directions of magnetisation are shifted, two by two, by 90°.

14. (currently amended) A measuring installation according to ~~one of claims 11 to 13~~ <u>claim 11</u>, characterised in that the open magnetic circuit (3_1, 3_2) includes a second polar part (18_1, 18_2) placed opposite to the first polar part (5_1, 5_2) forming, together with the latter, a magnetic gap (19_1, 19_2).

15. (original) A measuring installation according to claim 14, characterised in that the second polar part (18_1, 18_2) is equipped with resources for creation of the magnetic flux (4_1, 4_2).

16. A measuring installation according to claim 14, characterised in that the second polar part (18_1, 18_2) is formed by a tubular element fitted with the radially magnetised annular element (14_1, 14_2).

17. (original) A measuring installation according to claim 13, characterised in that one or the other of the polar parts (5_1, 18_1 - 5_2, 18_2) has a plane profile designed to improve the linearity of the output signal delivered by the measurement cells (11_1, 13_1 - 11_2, 13_2).

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